

3,235,531, Kakos et al US 3,484,399 ("Kakos"), Morishita et al US 5,288,840 ("Morishita"), Collins US 4,975,526 or Walling et al US 3,027,352 ("Walling"), for the following reasons.

Walker relates to a thermal after treatment with a chemical stabilizer for the purpose of stabilizing the granules obtained, but not the shaped articles produced therefrom. The improved stability is caused by the specific thermal after treatment and the chemical stabilizer, but not the comonomer content. It is not disclosed, and not likely, that shaped articles molded from the granules made according to Walker will have a comparably low emission as molded articles produced according to the invention. Moreover, the stabilization of Walker relates to a more stable copolymer on processing, but does not teach or suggest a low formaldehyde emission of shaped articles, which is after processing. This conclusion can be drawn from the manner in which Walker determines the stability: it is determined by the amount of weight loss by working the polymer on rolls at a temperature of 176°C (see Walker, column 5, line 72 to column 6, line 5). According to the present invention, the formaldehyde emission is determined according to VDA 275, which is carried out by heating a shaped article in a closed container together with a liquid to 80°C and titrating the formaldehyde absorbed by the liquid. Therefore, a person skilled in the art could not derive the present invention from Walker, because the tests carried out by Walker do not allow a judgment as to whether or not products thereof have a low formaldehyde emission.

Kakos generally discloses copolymers having 0.1 to 15 mol % comonomer content, (Kakos, column 5, lines 16-17). The improved stability is achieved by the addition of a

stabilizing additive (Kakos, column 8). Kakos mentions "stabilizing" a polyoxymethylene, but is silent on the formaldehyde emission and the mechanical properties. Similarly as with Walker, Kakos determines the stability of the polymer at a high temperature, 230°C, as described in column 12, line 19 to 26. Also this test does not allow an extrapolation of the formaldehyde emission of a shaped article according to VDA 275. Accordingly, Kakos neither teaches nor suggests the present invention as claimed.

Morishita teaches oxymethylene contents of 0.07 to 0.5 mol%, which is not relevant as it covers a different area of comonomer content. The tensile strength of materials having a polyethylene content of 1.4 mol% is not relevant because it is outside the scope of the claims as well. The present invention is not that the materials have certain mechanical properties, but it was surprising to find that the materials according to the invention have the described advantageous mechanical properties together with a low formaldehyde emission at certain melt flow indices. According to the present invention, it is now possible to produce polyacetals with certain melt flow indices, mechanical properties and formaldehyde emission. Morishita is silent on the formaldehyde emission of shaped articles and has a very limited view on the mechanical properties because only tensile strength is disclosed. As in Kakos and Walker, Morishita discloses stability, not formaldehyde emission. In Morishita, the heat stability is even more related to processing and even less related to a finished molded product, because the heat stability in Morishita is defined as the processing time needed until a so-called "silver streak" can be observed on the molded test specimen (Morishita, column 7, lines 44 to 52).

Collins relates to a process in which the copolymer is manufactured from formaldehyde. It is silent on formaldehyde emission as well as mechanical properties and does not teach any aspect of the present invention.

Walling describes different polymers and also talks about stability, but as in the other references, the stability is determined by a different test from VDA 275 which does not allow a conclusion about the formaldehyde emission of shaped articles manufactured from the polymers described by Walling. Walling determines the stability by weight loss determination at a temperature of 225°C for 120 minutes (Walling, column 4, lines 1 to 4). Walling is also silent on the mechanical properties, and on the manner of producing a copolymer with the properties according to the invention herein.

For the reasons mentioned above, the references cited by the Examiner do not disclose or suggest the present invention, either alone or in combination. Particularly, all of the references discuss the term stability, which is fundamentally different from formaldehyde emission as can be seen from the tests employed for determining stability. The references do not teach how to link the parameters of formaldehyde emission, melt flow index, all the mechanical properties described in the invention and embraced by the claim to enable a person skilled in the art to produce shaped articles according to the invention.

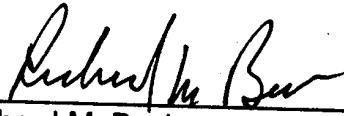
Accordingly, in the absence of additional prior art of increased pertinency, it is believed that claim 12 is directed to patentable subject matter and Notice to that effect is respectfully requested.

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